

Response
Serial No. 10/628,455
Attorney Docket No. 030921

REMARKS

Claims 1-16 are pending in the above-identified application. Claims 1, 6, 9 and 14 are amended. No claims are cancelled or added.

The Examiner objected to the abstract of the disclosure because it is too long. Applicants amend the abstract of the above-identified application. Please see Amendments to the Specification on page 2. Accordingly, withdrawal of the objection is now solicited.

The Examiner objected to claims 4, 6, 12 and 14 because independent claims 1 and 9 recite, “a magneto-sensitive device” (emphasis added; ll. 14 and 13, respectively); whereas dependent claims 4 and 12 recite “three magneto-sensitive devices” (line 4) and dependent claims 6 and 14 recite, “three magneto-sensitive device [sic]” (line 2). Applicants amend claims 1, 6, 9 and 14 of the above-identified application. Please see the Listing of Claims on page 3. Accordingly, withdrawal of the objection is now solicited.

The Examiner advised that if claims 1-8 are allowable, then claims 9-16 will be objected to under 37 C.F.R. § 1.75 as being a substantial duplicate thereof. The Examiner asserted that the only difference between claims 1 and 9 is a speed reduction means and a speed reducer, respectively. However, the Examiner overlooked other differences in claims 1 and 9. In particular, claim 1 recites a driving pulse generating means, a present stage number detecting means, and an initialization means; whereas claim 9 recites a driving pulse generator, a present stage number detector, and an initializer, respectively. Accordingly, claims 1 and 9 are not substantial duplicates and a double patenting objection should not be issued.

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The Examiner rejected claims 1, 5, 9 and 13 under 35 U.S.C. § 103(a) as being unpatentable over *Nagai et al.* (6,346,788). It is believed that the Listing of Claims on page 3 distinguishes over the prior art for the following reasons.

An object of the present invention is to provide a positioning controller in an apparatus including a motor driving unit, which can prevent damage due to the collision of a positioning stopper and a nut, *without using an additional component such as a limit switch or a position detecting sensor* [p. 3.] To accomplish this objective, the present invention claims, in part, a speed reduction means to reduce a rotating speed of the brushless motor by reducing power of the driving pulse when the rotor present stage number is equal to one of the forward traveling limit stage number and the backward traveling stage number [claim 1.] Accordingly, by reducing power in this manner, additional components such as limit switches and detection sensors are not necessary [p. 3.]

In the Office Action, on page 4, the Examiner admitted that *Nagai et al.* does not explicitly disclose such a speed reduction means (and speed reducer) that reduces the rotating speed of the motor by reducing the driving pulse when the rotor present stage number is equal to either the forward or backward traveling stage number, respectively. However, the Examiner asserts that *Nagai et al.* does disclose reducing the torque whenever the movable member reaches a position end limit (col. 12, ll. 9-56). Because of this, the Examiner states that it would have been obvious to one having ordinary skill in the art at the time of the invention that when the movable member reaches an end (when the present stage number is equal to an end position), the

control circuit (Fig. 12, #400) would reduce the drive pulses sent by #412 to the motor #322 to prevent current from being supplied to the motor when its load can no longer be moved in a first direction.

One of ordinary skill in the art would not have been motivated by *Nagai et al.*, which discloses reducing torque whenever the movable member reaches a position end limit, to reduce a rotating speed of the brushless motor by reducing power of the driving pulses when the rotor present stage number is equal to one of the forward traveling limit stage number and the backward traveling stage number. The control system disclosed in *Nagai et al.* requires switches S1, S2, S3, S4, S5, and S6 which supply speed limiting signals to the controlling device [see column 8, lines 47-58.] Thus, the device disclosed in *Nagai et al.* will suffer from the same problems discussed in the present application, namely a more complicated control system and an increased overall system cost [p. 2.]

Further, as shown in FIG 15B of *Nagai et al.*, the moving member 18 is brought into the state wherein it is pressed against the end plate 22a serving as a stopper [column 12, lines 49-51.] The *Nagai et al.* reference does not teach, suggest or discuss resulting damage to the end plate from the collision.

Therefore, it is apparent that the discovery of the problem (i.e., damaged positioning stopper and nut, due to collision of a positioning stopper and nut), which is described in the specification (see pp. 1-2), is not obvious based on *Nagai et al.* Moreover, the source of the

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problem (i.e., rotating speed of the motor), which is described in the specification, is not obvious based on the *Nagai et al.* reference.

As claims 5 and 13 depend from independent claims 1 and 9, they should likewise be allowable in light of the above comments in regard to the §103 rejection by nature of their dependency.

The Examiner rejected claims 2 and 20 under 35 U.S.C. § 103(a) as being unpatentable over *Nagai et al.* as applied to claims 1 and 9 above, and further in view of *Strauss et al.* (5,744,923). As claims 2 and 20 also depend from independent claims 1 and 9, they should likewise be allowable in light of the above comments in regard to the §103 rejection by nature of their dependency.

The Examiner rejected claims 3, 6, 8, 11, 14 and 16 under 35 U.S.C. § 103(a) as being unpatentable over *Nagai et al.* as applied to claims 1 and 9 above, and further in view of *Hill* (5,872,434). Likewise, as claims 3, 6, 8, 11, 14 and 16 also depend from independent claims 1 and 9, they should likewise be allowable in light of the above comments in regard to the §103 rejection by nature of their dependency.

Applicants amended claims 6 and 14 to correct grammatical informalities. Please see the Listing of Claims on page 3.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

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If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Darrin A. Auito
Attorney for Applicants
Registration No. 56,024
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

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